

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001044**Date Inspected:** 16-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Xi**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Caltrans Mock-Up**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, to randomly monitor welding and Quality Control (QC) functions. While on site, the QA Inspector observed and/or discovered the following:

The Caltrans QA Inspector observed Machine Submerged Arc Welding (SAW) on Lower Shaft Assembly on the 114M Mock-Up, Weld No. MUC-MA107 B/C-5A. This is the outside weld of Skin A to Skin E. This is a complete joint penetration (CJP) weld and was being welded in the flat groove (1G) welding position. The welder was Xu Yan (I.D. No. 052917), whose qualifications for this welding are listed in ZPMC's Master List of Welders/Welding Operators/Tack Welders, Revision 6. Welding Procedure Specification (WPS) WPS-B-T-2221-C-U2b-S was being used for this weld. ZPMC CWI, Chen Xi (CWI No. 07072021) was present during welding as was Bureau Veritas Inspector, Hua Li Wei. The QA Inspector verified that the amperage and voltage were within the ranges of the WPS for the pass being welded. This was accomplished using a calibrated Fluke amp/volt meter. The QA Inspector also noted that ZPMC's documentation of minimum/maximum preheat/interpass temperatures, voltage, amperage and travel speed by Chen Xi were within the specified ranges of the WPS for the first four passes.

The QA Inspector observed some discrepancies on ZPMC's documentation. The thicknesses listed on the documentation were 90 mm for both members. Drawing MUC-MA107 B/C shows Skin E to be 100 mm at this joint. The thickness shown on the drawing for Skin A is 90 mm and was correct on ZPMC's documentation. ZPMC's documentation showed the Weld No. to be MUSC-MA107 B/C-5A. It also showed the piece marks to be MUC-MA107 and MUC-MA108. The correct piece marks are MUSC-MA107 and MUSC-MA108 per Drawings

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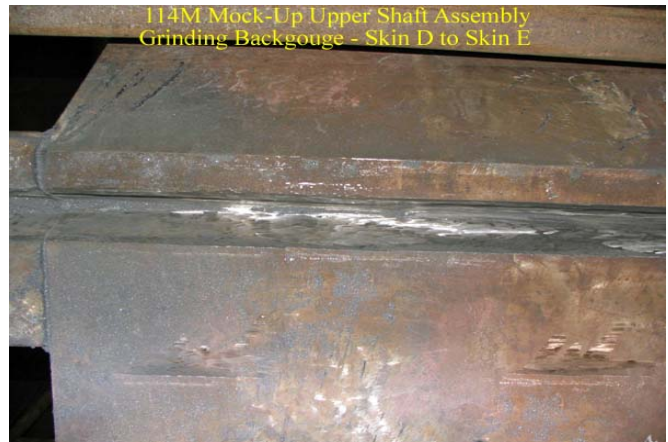
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MUSC-MA107 and MUSC-MA108.

The welding operator's qualification card showed an identification No. of 051917 on one side of the card and 052917 on the opposite side. No. 052917 was determined to be correct from ZPMC's Master List of Welders/Welding Operators/Tack Welders, Revision 6.

The QA Inspector also observed the backgouging by grinding of the outside of the weld joining Skin D to Skin E on the Upper Shaft Assembly on the 114M Mock-Up.

All observations appeared to meet the requirements of the job specifications.



Summary of Conversations:

As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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Inspected By: Jobes, Kenneth

Quality Assurance Inspector

Reviewed By: Cochran, Jim

QA Reviewer